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Asian Energy Security and Nuclear Power

It is generally agreed that Asia is the region where the biggest economic growth is expected in the 21st century and the largest amount of energy will be needed to sustain that growth. Thus, Asia is looming an increasingly serious factor in all forecasts concerning global energy security and environmental problems.

Energy security problems in Asia: the case of China

First, let us focus on China, a country with the world’s largest population. China's main source of energy is coal which constitutes about 80 % of the country's primary energy consumption. In order to sustain an incredible speed of her industrialization, immense amounts of coal are being burnt every day, emitting a tremendous quantity of exhaust fumes; an estimate tells us that within the next twenty years, CO₂ emissions in China will overtake those of the United States. The prevailing westerlies would eventually cause serious acid rainfalls in the Japanese Archipelago and Korean Peninsula. Even more serious than the environmental issue, however, will be the energy situation. While China's industrialization is concentrated in the coastal regions, the coal is mined far away from the coast in the north and central Chinese regions. As the result, an immense amount of money and time has to be spent on the transportation of coals in China. Under such circumstance, China began a large-scale shift from coal to oil from the beginning of the 90s. Although China now is the 7th largest oil producing nation in the world, her domestic oil supply has hardly kept up with the growing demand. As the result, China started importing large quantities of oil from the Middle East, having become a net oil importer in 1995.

Likewise, Indonesia, the largest oil producing nation in Asia, has not been able to meet her internal energy requirements solely by domestic oil, and has recently begun increasing the quantity of imported oil from the Middle East. It is expected that the country will become a net oil importer within the next several years.

Consequently, Asian nations, with the exception of Malaysia and Brunei, will come, sooner or later, to engage themselves in a fierce scramble for Middle East oil, thereby increasing the risks of regional conflicts and confrontations. Keeping this prospect in mind, China and many of the Southeast Asian countries have turned their attention to the off-shore oil and natural gas in the South China Sea. They are fast prospecting and developing their production in the region. As a result, the struggle for the possession of the Spratlys and Paracels Islands has been increasing in intensity. If the situation escalates even further and develops into military confrontations, the peace and security of the whole of Southeast Asia will be at jeopardy.

Risks and countermeasures

As many oil and LNG tankers destined for Japan, Korea and Taiwan pass through this sea area,

in such a critical situation serious consequences will be unavoidable for these nations, too. In the Malacca Straits, the main passage route for tankers bound for Japan, in addition to frequent collisions and shipwrecks, piracy is rampant in recent years. Safe passage through the Straits has thus become a serious concern for the energy security of Japan and Korea.

As seen above, throughout Asia there are many areas that can endanger the assured access to energy resources. Under the circumstances, there clearly exists an urgent need to strengthen preventive mechanisms, such as a regional oil stockpiling system or an emergency mutual assistance scheme, in preparation for a large-scale energy crisis due to the disruption of oil supplies. Simultaneously, there is a clear need to conserve or decrease the use of fossil fuels such as oil and coal, and to increase the development of renewable natural energy such as solar, wind, geothermal and bio-mass.

As a technologically advanced country, Japan should take more leadership in these areas. In January 2002, Prime Minister Junichiro Koizumi came up with a plan for regional cooperation to strengthen energy security in Asia in his policy speech in Singapore, which was entitled "Japan and ASEAN in East Asia: In Search of Sincere and Open Partnership". It is strongly hoped that this proposal would materialize as soon as possible.

A nuclear energy option for Asia?

There emerges a growing interest in nuclear energy among some of Asian countries as a viable alternative to fossil fuels. Already in Northeast Asia, Japan, Korea and Taiwan are generating substantial electricity from nuclear power plants; the ratio of nuclear generated electricity in the total amount of generated electricity is 35 % for Japan, 41 % for Korea and 24 % for Taiwan respectively. China has also started constructing nuclear power plants at a rapid pace, although at the moment only 1 % of the total energy generation in China comes from nuclear energy.

Furthermore, in the past several years, a few countries in Southeast Asia have also begun to consider the possibility of introducing nuclear energy. Among these countries, in particular, Vietnam has been asking Japan for technical and financial help for nuclear power generation. In the past, the Japanese government was reluctant to provide such assistance in this area. There is a clear need for Japan to respond more positively to such requests, as in the increasingly interdependent world of today it is evident that the peace and security can no longer be assured for Japan alone regardless of the regional peace and security as a whole.

Nuclear energy must be considered more importantly in Asia not only from the viewpoint of energy security but also from the viewpoint of global environmental protection since it does not emit CO₂. If, in addition to Japan, Korea and Taiwan already engaged in nuclear power, populous countries like China, India and Indonesia generate required electricity more from nuclear power, thereby decreasing the consumption of fossil fuels, the regional and global balance of energy demand and supply will be alleviated significantly. More nuclear power generation in Asia will certainly help lessen the deterioration of the global environment, particularly, global warming.